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EDITORIAL

SOME HIGHLIGHTS

Development Trends in the State:

An important development initiative in the State is the constitution of the Tamil Nadu Planning Commission. One of the reasons for our dismal development performance is the lack of an adequate balance between all India plans and decentralised programming and grass roots perspective planning. No National plan of course is a mere summation of State plans, though the Yugoslav plan is nearly that. Equally no national plan can be national unless it is grounded in the economic and human realities of the widely diverging states and districts of a sub-continent like India. The Tamil Nadu Planning Commission mandate is on sound lines: to assess the State's resources and plan for their use, to identify development bottle-necks and propose remedies, and to act as development advisor to the Government. The imperatives facing the commission are clear. They include, mobilsing savings, increasing food and cash crops in the wet and dry areas, planning new and raising medium and small industries activities to a level of 9 per cent growth, reducing unemployment and under employment particularly in the rural areas, arresting inflation, and expanding housing, education, nutrition and health facilities for the 50 per cent urban and 30 per cent rural people living under the 75 and 50 paise daily expenditure ceiling. The commission will also develop its perspective plan in harmony with the national plan, which is itself now being recast.

One feature which the State Commission should quickly study and at least indirectly remedy is in plan implementation. Plan formulation and project elaboration are not our bottle necks. Whether we look at the Centre's financial balance-sheet for thc year just ended or that of the State, the lag between plan estimates and plan outlay is widening every year. The central deficit for 1970-71 should have been nearer Rs. 400 crores. It is Rs. 230 crores only because of the tragic shortfall in the central plan outlay of Rs. 160 crores. In key industrial projects alone the shortfall in capital outlay was Rs. 50 crores with Bokaro, Hindustan Steel, Fertilisers, Bharat Aluminium and Petro Chemicals leading the way. A similiar gap between estimates and actuals is registered under many development heads in agriculture, animal husbandry, and basic and small industries. Salem Steel is expected to spend a mere Rs. 15 lakhs for 1970-71. The development expenditures for the State for the year show some improvement because of crash programmes vigorously enforced by the Government. What is needed is a system of plan administration and project execution which uses the plan resources smoothly and fully, without resort to crash or emergency measures. This demands both speedy and realistic project formulation. What is curious and in need of correction is that while we ought to be active in resource mobilisation, we seem to be unable to use fully our existing plan resources. Per contra or our non-plan expenditures are mounting way beyond estimates, eating up our slender and unused plan provisions. The shortfall is also related to the National Plan not being grounded sufficiently in the needs and the real possibilities of the States and to the lack of relationships between their responsibilities for development and financial resources. The State Planning Commission's work is one means of remedying the first defect. The second is equally urgent and may

require some constitutional and certainly legislative changes in the Centre State financial relations. The other all India problem is uncoordinated and inconsistent policies within the plan frame. The State Commission can at least demonstrate a co-ordinated policy frame for its perspective plan.

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Industrial Pointers:

The Sugar Industry is in a bad way due to lack of attention on its plethora condition. The 1970-71 output is expected to be 43 lakhs tonnes compared to last year's 35 lakhs tonnes and in the South particularly this record output is a sign of industrial progress—increased recovery. The internal and export demand will not however expand to offset the increased 8 lakh tonnes and hence the industry is in serious straits with regard to storage and the financing of the increased stocks. Interest charges are rising to a point where the cost of sugar on this count alone is increased by Rs. 3 per quintal. Tamil Nadu sugar production is the heaviest loser among sugar producing states. Its eight mills report a loss of Rs. 170 lakhs out of a total all India loss of Rs. 4 crores. Here is the paradox of plentiful supplies and rising prices. A review of the loan facilities, the excise tax, levy prices together with promotion of bilateral agreements on sugar exports are urgently called for.

The other serious problem area is textiles which faces inter related problem of raw cotton shortage, steep raw materials cost rises, the relation between prices of controlled and uncontrolled varieties, credit squeeze and declining exports. Raw cotton production has dropped sharply from 58 lakhs bales in 1969-70 to 52 lakh bales for this year. Cotton prices have risen by an incredible 40 per cent during the

year, from 164 to 236. Credit limitations affect both reconstruction and modernisation programmes. Exports have declined slightly but with the expected dropping of commonwealth preferences in the U.K. and the Common Market procedures, its export future is not bright. The annual reports of the Madurai Mills and Binny's tell the story. The first action needed is a breakthrough in cotton production so that next year's yield is increased by 10 lakhs bales and the year after an annual production of 80 lakhs bales is assured. With the largest cultivated area (80 lakh hectares) and the lowest yield (123 Kg. per hectare) in the world increased production requires concentration on the cotton crop in dry areas where only 15 per cent of the total yield is derived from nearly 70 per cent of the growing area. Textiles are our oldest and most solid industrial base and Tamil Nadu along with Maharashtra can pioneer this breakthrough in its dry areas. While the suggested loss of Rs. 100 crores on controlled varieties is a little like crying wolf, the industry must turn its attention to the priority tasks of cost reduction, modernisation and increased productivity. For this some credit priority must be given to the mills if they are to meet the rising demand for controlled varieties and compete successfully with international synthetics. A larger issue, not confined to textiles, is the manner in which the Monopolies Act is functioning both with regard to horizontal and vertical integrations, in relation to the double objective of avoiding economic concentrations, excessive fractionalisation and restrictive practices and promoting growth potential through growing competitiveness, economies of scale and low costs. In fact our whole control system including the industrial licensing system needs review, given the interdependence of the public and private sectors and large and small industrial undertakings.

Three projects are in the planning drawing and expanding stage in the State, the Tuticorin Fertilizer Complex, the Vanaspathy Factory and the Kalpakkam Atomic Power Station. The Fertilizer Factory with its feed stock of naphtha and its subsidiary chemical industries is to be integrated with the heavy water plant to be set up there by the A.E.C. The integrated plant is an important and ambitious one for the production of ammonia and sulphuric and phosphoric acids. The all India fertilizer complex record is poor in terms of unused capacity, outlays and lagging time schedules. Our State Plan must ensure both a precise and speedy time schedule and full use to keep fertilizer costs and prices within the capacity of the users. The proposed Vanaspathy factory has a good raw materials base in the state, with the high groundnut yields of the North and South Arcot districts and their regulated markets. Here again the Co-operative Corporation needs to move, speedily from the drawing to the execution state. The Kalpakkam Atomic Power project is essential to meet the power needs of the State, particularly for agricultural pump sets and the 8500 tube wells sunk last year. Even so the over-riding need in this as in all public sector undertakings is to ensure full utilization of capacity and this can be achieved only if the project serves all four southern states. Tamil Nadu alone can use less than 40 per cent of the power produced at Kalpakkam and the tragedy of yet another under utilised public undertaking must be avoided at all costs. Also if this facility is to help the agricultural breakthrough in the south, its price to the farmer must be viable. A system of pooling among the four states can help keep the price factor down.

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Agricultural Progress:

Agricultural production in the State which shares in the country's satisfactory yield (with the exception of cotton) can receive a further spurt through action on four fronts—multiple cropping, use of the newly developed paddy insecticide, extension of regulated markets and improved live-stock farming. Of the 52 centrally sponsored multiple cropping pilot projects, three are located in the Thanjavur, Tiruchirapally and South Arcot districts. These projects are at the research and demonstration stage to determine what variety of crops, special inputs, pesticides and credits the land in question requires. Such adaptive research in relation to dry farming at the Koilpatti centre under the Coimbatore agricultural university and at Kudumianmala will establish the proper sequence of multiple crop cultivation for each locality and the appropriate system of bank credit to the farmer. In fact if the nationalised banks can develop a flexible system to provide the farmer the needed credit for his multiple crops, which will be repaid by deposits after each harvest, the multiple cropping system can be expanded by the State with its own resources by 1972-73. Among the inputs for this and other paddy growing areas, the newly developed paddy insecticide at MRS in Hebbal should be made available rapidly. Distribution is always a bottleneck and the system of leading input suppliers in the pilot projects should be extended to spread this simple and powerful insecticide which destroys 8 forms of paddy pests.

One of the most urgent measures for increasing farm incomes and improving the rural terms of trade is better and regulated marketing. Such marketing increases farm incomes by Rs. 7/- for every Rs. 100/- produce solds. Out of the 2300 markets in this country, 1800 are regulated under the Agricultural Markets Act.

In Tamil Nadu we have only 200 such markets and even so only thirty of them are really regulated. The South Arcot markets at Villupuram, Vridhachalam, Tindivanam and Panruti and those at Kalugumalai and Pudur are the best, dealing with 97 per cent of the marketed farm output in their areas. The groundnut and gingelly markets in North and South Arcots and Tiruchirapalli are functioning effectively. The main obstacles to sound marketing in the State are ignorance, small farm surpluses, distance to the market, lack of marketing yards, lack of marketing credit and the control of markets by the intermediary merchants. The way forward for regulated markets in Tamil Nadu is clear. Equip all existing markets with market yards at the cost of Rs. 2 lakhs per market, establish submarkets to reduce distances from farm to market, empower marketing and co-operative societies to provide marketing credits to the farmer, exclude middle men from the markets and rapidly increase the number of markets and sub markets, so that in Tamil Nadu the Agricultural Produce Markets Act can be made compulsory by the start of the fifth plan, the target year 1974-75.

Live stock farming which is related both to multiple cropping and marketing also needs development in the State. The proven artificial insemination techniques need to be rapidly spread as a means of improving the quality of our cattle population—whether it be for its produce of meat, milk and skins or traction services or fuel and fertilizer contributions. Unlike popular beliefs in the West, India's cattle population is neither large nor constantly increasing. In the sixties their numbers were almost stable, increasing from 175.6 to 176 million, with an improved ratio of milch cows and a reduced bull-cow ratio. What is needed is a rapid diffusion, of artificial insemination to improve the quality of the State's cattle. Again contrary to widely held views, experi-

ence in the south shows that the only obstacle that 40 per cent of the farmers who are not using this method as explained by them is the distance between their live stock and the artificial insemination centres. A speedy increase in such centres and the development of mobile centres in the State will send up farm incomes.

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Unemployment Action:

The Central Government's programme to counter unemployment through the creation of one thousand jobs with Rs. one hundred per month per job in rural works in each district is no more than a small and symbolic start in view of the massive unemployment and under employment situation confronting us in the state and the country. According to the now discarded computations, we have 12 millon unemployed and 24 million underemployed. The programme however is a first step in the right direction as it is priority production oriented, being related to the small, dry and marginal farmers. In terms of the potential rural works (rural roads, land reclamation drainage and embankment, water conservation, rechanging wells and tanks, soil conservavation and aforestation), a programme for the country at least six times the size should be undertaken when the National Plan is reformulated and doubled again during the following year. In Tamil Nadu, the State should study how it could use its surplus food and cash crops as a means of rapidly expanding this priority programme, without waiting on further central subsidies.

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Mid term poll statistics:

Despite the increase in population and the total electorate (272.63 million compared to 249 million in 1967), the actual number of voters in 1971 declined to 54.8 per cent (149.45 millions) compared to the 61.32 per cent in 1967 (152.72 millions). Tamil Nadu has the highest voting record, 71.13 per cent of the electorate, and Orissa the lowest, 43.93 per cent. The comparable 1967 percentages were 76.57 per cent and 42.83 per cent. Only six out of seventeen states registered a voting average above 60 per cent. Why is Tamil Nadu a 70 per cent democracy while the country is only a 55 per cent one?

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1971—the U.N. International Year to combat racism:

Unesco celebrated the week of March 22 to 26 in Paris as the International year to combat racism, with five public lectures delivered at Unesco House to a total international audience of over 5,000 persons. lectures were: "Race and Culture" by Pro. C. Levistrauss (France). "The Meaning of Independence" by Prof: N. Stanislas Adotevi (Dahomey), "Evolution of Society, Conflict and Adjustment" by Prof. Max Gluckman (United Kingdom) "Modern Science and Race Theory" by Prof: Nicolas Doubinine, (USSR) and "The International Commitment" by Dr. Malcolm S. Adiseshiah (India). Three conclusions emerged from the week's discources and discussion. First there are no races, there are different cultures developed by different peoples and the unity in the diversity of these cultures gives the lie to all racist theories. Second there are no racial biological differences among men. All discriminations proceed from social and economic exploitation of man by man. Third we have an international commitment

to outlaw and eradicate races and all forms of racial discrimination but we have done little about it. "So the year 1971 can be a water shed", the celebrations concluded, "we can either simply say, we have done what we could" and forget about it, or we can come down hard and say, it is enough, these cannot happen in 1971. There is no neutrality, no above the fight in 1971 any more than there was in 1939. We must slap down every manifestation of racism."

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Federation of Employers of South India:

The fifty first annual general meeting of the Federation was held in Dare House, Madras on March 30. The meeting paid particular attention to the main economic trends of the country, buttressed by the results of the mid term poll at the Centre and in the State. Particular concern was expressed with regard to the delay in giving effect to the compromise agreement of the Standing Labour Committee on the respective roles of the State Governments and the Industrial Relations Commission on labour matters as recommended by the National Commission on Labour. The compromise which must be acted on by State Governments is that they will continue to refer matters for adjudication or conciliation, while the commission decide on disputes and union recognition. The poor record in 1970 of labour relations in the State was noted. The address of the Chief Guest dealt with the problem of inflation.

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International Cultural Hostel for Madras:

Kalakshetra is an internationally recognised and used cultural centre for the diffusion of Arts and

Education in the spirit of the sages. On the occasion of the sixty first anniversary of one of its moving spirits, Sri Sankara Menon, contributions were raised from friends and well wishers with which an International Hostel cum Guest House has been erected on its site. Visitors from Asia, Africa, Europe and America can now live in this centre of Arts as well as learn there.

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April Madras Development Seminar:

The April Seminar paper "Entrepreneurship in Tamil Nadu" by Dr. V. Shanmugasundaram, Professor of Economics, University of Madras, appears as the main article in this issue of the bulletin.

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A second Article on "Inflation in India and the Way Out" also appears in this issue.

ENTREPRENEURSHIP IN TAMIL NADU

By

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1.0 INTRODUCTION

1.1 *The place of entrepreneurship in Indian Economy:*

The study of entrepreneurship is an exercise in an uncultivated terrain of Indian Economics. Except for isolated works one comes across in Indian Economics, laborious writings in the past pertained to currency, finance, peasants, indebtedness, industry, protection, swadesi movement, foreign capital, planning, etc. The preoccupation with land and capital problems has been for a long time the practice, and in recent times when the dialogue with the working classes began, it soon became a debate between capital and labour. Further the cavalcade of Indian economic studies does little justice to the Indian demands for economic theory as it tended to be a laborious reproduction of the historical enquiries of the 19th century Britain. After all the tradition of scientific study of economics is about sixty years old in India. Leaving out the first ten years of experimentation in British ideas, and the last twenty years of the domination of thought by economic planning we had just two decades left, and the two world wars thrown in between. Compared with this time span that faced Indian

economists for development of theory endeavours of the men of action in that time period had been impressive. What is currently an academic gap is between the hope for and the actual delineation of the case histories of successful entrepreneurs, and equally of firms which have failed, and thus the causal factors.

1.2 *A substitute for superficial acquaintance is required*:

The environment of entrepreneurial life in India is now known only in fragmental accounts of foreigners seemingly scared of Indian socialism, or in colourful accounts of Indian industrialists who see a correlation between the low level entrepreneurship and high level of possible profit, and are therefore bewildered. With a wide potential market for goods, with a land densely populated and a people traditionally pliant with modern technology available in the international centres of learning just for the asking, or at throwaway prices, Indian agriculture and industry should have rapidly transformed our economic landscape in the last thirty years. But such transformation happened only in fits and starts earlier in the 19th century. Later there were years of marked activity especially in the beginning years of the Plan, followed by periods of lull in each spell of the five year plans. The character, problem and extent of entrepreneurship in this broad background of Indian life is the theme of the paper.

1.3 *The Prospects*:

The questions to be raised are how do the entrepreneurs originate, what are their needs, are they on the increase or decrease, and what are the sociological factors governing their life. Then there arise a host of questions as to how they operate and what prospects they have for lifting our economy to higher plateaus of achievement. A study of Tamil Nadu in

this context is long overdue. It is the suggestion of this paper that in the light of the high level of literacy and the agricultural entrepreneurship of remarkable dimension already achieved in recent years, the prospects for industrial and service entrepreneurship are bright in the state.

2.0 THE CONCEPT OF ENTREPRENEURSHIP:

2.1 *The Changing Connotation*:

The concept of the Entrepreneur in the centuries past was known in English life only in the area of dramatics and fine arts. Perhaps it was for this reason that the English economists have attributed little importance to entrepreneurs. Leon Walras blamed the English economists, for equating the entrepreneurs with the capitalists. The Walrasian entrepreneur is the agent—a person or a corporation that buys raw materials from other entrepreneurs, hires land from landlords, capital from capitalists and skill from workmen. The manufacturer of product or service is perhaps the Marshallian fourth agent of production, the organiser. The modern role of an entrepreneur is however more evolved, than that of a manager or an organiser. He determines what to produce, where to produce, how to produce, and at what price to sell in a competitive society. Doing what somebody else has already done is just imitation and not organisation. An entrepreneur is nearer the Schumpetarian innovator and has a real purpose in a growth economy. The reward he is entitled to is not a share in the profit which even an ordinary shareholder in a giant corporation gets. He is entitled to a rental payment for his rare ability to produce a good which nobody else can produce at least for some time. Just as quasi-rent, it is quasi-profit which an entrepreneur gets, till the commodity or the service he generates becomes fairly common so that any manager can take over the role of risk bearing or uncertainty absorp-

tion. In a rich country, what is management or risk bearing becomes uncertainty-bearing and innovation in a poor country. To recall what Schumpeter has said about innovation and what F.H. Knight[1] had to say on risk and uncertainty is tantamount to hearkening back to events of Europe and America which do not have comparable parallels in recent Indian economic development.

2.2 *Entrepreneurial gains could be deemed rents of differential Ability*:

In Ricardo's emphasis upon 'differential rent' one can discover as Bailey had done before, that such differentials were not confined to land. Mill's and Mangoldt's interpretations of entrepreneurial gains as rents of differential ability, are academic references in this context.[2]

2.3 *Entrepreneur under protected credit supply*:

The role of the capitalists and of the entrepreneurs is getting blurred, under the present conditions and restrictions on private lending and borrowing. Economic protection against lending money at high rates, and institutional lending by co-operative and other banks are based not on security but possible ability to repay.

2.3.1 *The real and apparent risk bearing*:

If the modern economist also includes risk-bearing among entrepreneurial functions, it may be well to point out at once the objection to the idea. When we have realized that the entrepreneur's function is distinct from the capitalist's function, a capitalist becomes a money lender and not an entrepreneur. It

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[1] KNIGHT, F. H.: *Risk, Uncertainty and Profit* (London 1921). I found a kindred soul in F. H. Knight in my discussions with him on risk bearing in poor countries at the Semmening Conference, Austria, September, 1964.

[2] SCHUMPETER, J. A. *History of Economic Analysis*, (London, 1954), p. 935.

has been said that if he borrows at a fixed rate of interest, the capitalist being entitled to repayment plus the interest irrespective of results, it is the entrepreneur who bears the risk. This is a typical instance of a very common error of mixing economic and legal relations. If the borrowing entrepreneur has no security and hope of repayment, it is obviously the lending capitalist who stands to lose, his legal rights notwithstanding. If the borrowing entrepreneur has means by which to discharge his debt, he too is a capitalist and, in case of failure, the loss falls upon him as a capitalist and not as an entrepreneur.

2.4 *The sufficient condition*:

Under socialism, it is feared that the quantum of capitalist contribution and the entrepreneurial contribution from the leaders of industry will be declining. But this hardly is the present situation. There is a distinction between private and public sector but this is not the same as the distinction between entrepreneurship and non-entrepreneurship. Several institutional frames like a landed capitalist, industrial capitalist small or large, co-operative enterprise, and public enterprise can lay claim to entrepreneurial achievements, provided they are engaged in the production of a new commodity, or an old commodity under a better technique or the sale of any commodity at a lower price keeping the known quality and quantity constant. This constitutes the entrepreneurial input. The need for incentives under socialism and investment in enterprise through competitive elimination of inferior firms have gained attention in recent times. If it is profit that is the index of entrepreneurial success under capitalism, the produc-

[3] This terminology is contrasted often, in growth literature with the "necessary condition". Unless we have the necessary and sufficient condition, growth is not possible. The same applies to entrepreneurial process.

tion of the socially desired good is the index under socialist welfare conditions. In this paper, entrepreneurship of different kinds are considered and the term is used in a broad context. Wherever the necessary and sufficient conditions are present for effective entrepreneurship, like the mobility of talented persons, social or material desire to produce a good not so far produced, or so well produced, expansion of the firm through manifestations of Joan Robinsonian "Animal Spirits" and organisation of small industries with advanced technology in industrial estates, entrepreneurship will be manifest. Creation of new standards in education, health and other services are instances covered here and elsewhere.

3.0 Methodology

3.1 *The Location*:

Entrepreneurship is perhaps the most mobile of economic inputs. What is seen as the generation of entrepreneurship in Tamil Nadu may soon find itself prospering in far off Maharashtra, Haryana or Bengal. Similarly the Sardars of Punjab are the entrepreneurs in automobile spare parts in the City of Madras. Hence like the problem of locating the origin of income which has defied solution by the successive Finance Commissions of India, this question of origin of entrepreneurship will baffle successive economic enquiries. Income cannot arise without factorial combination. Nor can entrepreneurship be manifest in the absence of an environment and sufficient conditions for its efflorescence. The place where it is manifest, or the person in whom it is abundantly seen in his place of normal residence has to be reckoned as the location of entrepreneurship.

3.2 *Period of Study*:

Enterprise in the modern context in Madras is traceable to the days long before the industrial

revolution in Great Britain, with the founding of the City of Madras in 1639, for purposes of trade and factory production by the English agents, as rivals to the Dutch Settlements from 1621. Tracing the comparative features of this Indo-European entrepreneurship over the last three centuries, is an effort awaiting the future scholar. This paper touches only the top of the waves in the last three decades.

3.3 *The Period of Choice*:

We cover the period 1930-1970, for several reasons, inter alia, the world depression of the early thirties, the Government of India Act of 1935, which anticipated and laid foundations for the Republican Constitution of India of 1950, the pre-Second World War Conditions of stability and the peak of economic nationalism before the end of the British rule and the nation-wide economic struggle for independence under the Swadeshi Movement of M. K. Gandhi. Further the speed with which entrepreneurship has increased both in the public and private sectors after the commencement of the era of compulsory primary education can be noticed in recent times.

3.4 *The qualitative versus quantitative studies*:

The study of entrepreneurship is essentially a qualitative study. Still, in respect of capital accumulation, profit levels, choice of commodities for production with sophisticated technology, and the measurement of welfare through education are some of the areas where quantitative methods can be applied. Ranking of firms, provision of background data on entrepreneurial shifts, studies of success stories are some of the useful ways of understanding entrepreneurial functions in Tamil Nadu.

3.5 *A resume of some studies:*

A selective appraisal of some writings is attempted here. The Madras University and UNESCO reference libraries follow the Colon Classification.[4] Books on entrepreneurship appear mainly under profit which is X:328. The treatment of our paper is based upon social mobility, involvement of technology not just hunting for profits for its own sake. Ours is a study not of profit under any one system but of an endeavour to transform the economy in many directions. In the American System of decimal classification the subject is treated under business. The Index to Economic Journals prepared by the American Economic Association treats the entrepreneur as the businessman.[5] The difficulties are not so much of classification as of actual dearth of materials on the subject. The History of Parry's,[6], the Annual Reports of the South Indian Chamber of Commerce, the Centenary Volume of the Madras Mail, the Tercentenary Volume of the City of Madras,[7] the Annual Reports of several companies in the State, the commercial and industrial year books, the First Five Year Plan Reports and other official publications give information in passing on enterpreneurship. The one basic study entitled wholly on entrepreneurship is that by Rev. J. J. Berna, who prepared case studies of rural and urban industries for the period 195155, the period is that of nascent industrialization.[8] This is a quanti-

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[4] RANGANATHAN, S. R.: Colon Classification, (Madras 1964), Pp. 2-112, Schedule X.

[5] INDEX OF ECONOMIC JOURNAL: Volume V 1955, p. 162—Class No. 14-23.

[6] DESOUZA, F.: *The House of Binny's.* (Madras 1969).

[7] SRINIVASACHARI, C. S.: *The History of the City of Madras*, (Madras, 1939).

[8] BERNA, J. J.: *Industrial Entrepreneurship in Madras State*, (Standford Research Institute, 1960).

tative study. As regards the qualitative efforts of men of great vision, pioneering efforts, and dedicated zeal to transform radically the economy, we should look into person-based biography. Following our traditions, the Silver, Golden or Diamond Jubilees of institutions and individuals and the commemoration volumes,[9] brought out on such occasions provide good source material for entrepreneurial study. About South Indian entrepreneurs many definitive works similar to that on J. N. Tata[10] have yet to be written.

3.5.1 *The long term basis of Capitalistic and Sociological entrepreneurship in Madras Presidency*:

The interlocking managements of the Textile Industry and the dominance of family spirit and kinship as the motive force of growth formed the hypothesis of Nath's study[11] on the Textile Industry in the Madras Presidency. This work which constituted a thesis of the Madras University was of quantitative nature with some qualitative evaluation. After this piece of research the author subsequently had opportunities to share in the entrepreneurial development of the East Asiatic Company, The Hindusthan Lever and the State Trading Corporation. Such blended background of scholastic and business experience is a good backdrop for attempting new entrepreneurial studies in India.

3.5.2 *Japanese Studies in entrepreneurship in Tamil Nadu*:

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[9] COMMEMORATION COMMITTEE: 81st *Birthday Commemorative Volume* presented to Arcot Brothers Sir R. Ramaswamy Mudaliar and Dr. A. Lakshmanaswamy Mudaliar by C. N. Annadurai, Chief Minister of Madras, 14th October, 1967, (Madras, 1967).

[10] HARRIS, F.: J. N. Tata—*A Chronicle of His Life,* (Bombay, 1958).

[11] BOGENDRANATH, N. C.: Development of Textile Industry in Madras (Up to 1950). (University of Madras, Madras, 1957). He is now known as NATH, N.C.B.

Another attempt is that by one of the Japanese Scholars in the Department of Economics, University of Madras, who worked with me and has prepared a special study of the entrepreneurship of the money-lending community.[12]

4.0 AGRICULTURAL ENTREPRENEURSHIP

4.1 *The Farm Enterprises*:

The Green Revolution in India is the result of the application of science and technology to agriculture. The Thanjavur district has set a record in productivity with the use of fertilisers, seeds, and a package of credit and other facilites. As a consequence food production in India has gone up from an index number of 87 for rice in the year 1950 (base agricultural year 1949 = 100) to 158 in 1961—70, Among the districts which contributed to this rate of increase are Thanjavur in Tamil Nadu and Ludhiana in Punjab. The contribution is by ADT 27 Jaya, Padma, and Karuna which are typically Tamil Nadu discoveries of improved seeds. These have contributed to the building of the morale and enterprise in agriculture in the district.

When the new strategy was developed by the Government of India between 1967 and 1970 the Tamil Nadu Government was among those utilising the fertiliser and other aid given by the Planning Commission.

4.2 *From production to distribution*:

Thanjavur presents now not so much the problem of production but of the flight of entrepreneurship of traditional nature because of the demand of the working class for higher wages. The sociology of entrepreneurship in terms of class conflict is age old in Thanjavur and is now coming to the fore. The conflict between the Thevars and Harijans in Ramnad

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[12] ITO, SOJI: *Studies in enterprise in South India* (Tokyo, 1965).

and the burning of Harijans in Keelavenmani village in Thanjavur are instances of entrepreneurial rivalry in the context of inseparable land ownership and land management. Physical sciences have made their contribution to the break through. Human sciences however have kept pace with the technological advance and so we do not have as radical a re-distribution of income as the radical increase in output.

4.3 *Challenge for Entrepreneur in the Rural areas*:

The development of agriculture in the years ahead is likely to receive a new emphasis as an area of employment. With the development of agro industries, agricultural marketing, food storage, forest products based industries, livestock and poultry processing industries one may have to look for technician owners of farms and agro-industries. Non-productive employment should not be created as under conditions of famine, involving digging of pits and filling them up or the desilting of tanks. We have to device methods of encouraging entrepreneurs who will use their own agricultural engineering and veterinary training for self-employment and maintenance of high standards of productivity so that rural incomes per manhour will not be less favourable than urban incomes with the comparable use of capital.

5.0 INDUSTRIAL ENTREPRENEURSHIP:

5.1 *Changes in Human Resources*:

One of the significant findings of Berna was that owner entrepreneurs have contributed to the rapid industrialisation in the small scale sector. The Berna study revealed that the largest single group of entrepreneurs had the historical background of merchants and importers. They accounted for 29% of all entrepreneurs in Tamil Nadu. Trained engineers and self-employed graduates constituted 23% of all engineers, and this is one of the most significant features in the early phases of industrialisation of

Tamil Nadu. The increasing shares of self-employed engineers and technicians can be seen in two indicators (1) The percentage increase of investment in small scale industries, and (2) The increase in numbers of employed engineering and technological graduates.

5.2 *Investment for increasing Technician-owners*:

The first plan had a nominal outlay of Rs. 2.7 crores and Second and Third Plans 5.8 and 11.2 crores and small industries. By the end of the third plan industrial estates in ten centres, Guindy, Ambattur, Arokonam, Thiruvellore, Kathiavakkam, Ranipet, Trichy, Salem, Madurai, and Tuticorin were established. The Industrial estates accounted for 652 factory units by the end of the third plan. The proposed target of fourth plan is additional 600 units in 27 new industrial estates. By the end of the fourth plan therefore 45 industrial estates and 1252 factory units would be operating. Besides an increase from 26 to 333 in small scale industrial co-operatives, from 18 to 39 in handicraft co-operatives and 1 to 5 in sericulture industrial co-operatives gives a measure of the opportunity for the self-employed engineers and graduates who are given preference in respect of these industries. Entrepreneurship in this new sphere is not confined to the traditional, mercantile, or industrial communities based upon ancient caste practices. Outstanding among the industrialists are from the priestly castes like the late S. Anantharamakrishnan of the Amalgamation group of Engineering Industries and the late Mr. T. V. Sundaram Iyengar of transport and trade in automobile parts.

5.3 *Engineering*:

The large and innovating firms are Ashok Leyland with Rs. 778 lakhs investment, Tube Investments with Rs. 375 lakhs, Corborandum Universal with Rs. 79 lakhs, Enfield India with

Rs. 35 lakhs, India Forgo with Rs. 50 lakhs, Madras Aluminium with Rs. 597 lakhs, Standard Motors with Rs. 125 lakhs, Seshasayee with Rs. 100 lakhs, Simpson with Rs. 225 lakhs, and Southern Structurals with Rs. 100 lakhs. These are some of the peaks of the industrialization of Tamil Nadu. These investment outlays pertain to the year 1968 and have been obtained from the reports on these firms.[13] Dr. A. Ramaswamy Mudaliar, Mr. C. S. Loganathan, the late T. S. Narayanaswami, the late A. M. M. Murugappa Chettiar and many others of Binny's, Parry's, etc., have promoted both international transfer of capital skill and organisational ability account for products of international excellence. The Leyland trucks Corborandum abrasives, Eswaran's Switchgears, and the Automobiles of the Standard Motors are based on international specifications. The 1950s and 60s have witnessed sound growth in engineering industries such that Madras today has a commendable share of exports of engineering goods.

5.3.1 *Shift of Talents from Statesmanship and other fields to Industry*:

Sir A. Ramaswami Mudaliar moving from politics to statesmanship, from the vice-presidentship of Viceroy's Executive Council to the management of huge enterprises like Leylands and the associated firms augured well for the establishment of automobile and other industries of India. Similarly the entry of the family of A. M. M. Murugappa Chettiar in production of stainless steel, cycles etc., marked a shift from the traditional and socially injurious occupation of usurious money lending to forward looking modern industries. The younger members of the families of these entrepreneurs have been trained in

[13] The capital outlay figures have been obtained from the Kothari's Economic Guide and Investors' Hand Book, several volumes from 1963 onwards (Madras, 1963.....).

modern management techniques with the possibilities of their turning these industries into socially useful activities in the not distant future. There are a few who have moved out of the plantations and textiles like D. C. Kothari and G. K. Devarajulu, making the shift, from the old to new industries, a reality in Tamil Nadu.

5.4 *The Textile Industry*:

This is an old activity in Tamil Nadu, as old as the days of Thiruvalluvar. This industry in mechanised form is widely spread in Coimbatore, Madurai, Rajapalayam, Pollachi and Madras. Through the fifties and sixties, the prosperous textile industrialists of Coimbatore maintained high standards of production and catered to all forms of domestic consumption. When the textile industry suffered decline due inter alia to (a) glut in output (b) competition with man-made fibres (c) scarcity of raw cotton and (d) high import prices of foreign cotton. a few of them shifted to engineering and diversified production of other goods. Where entrepreneurship in the textile sector failed to grapple with these problems, the State Government had to face the problem of sick mills.

5.5 *Cement, Paper and Chemicals*:

The Cement Industry of Madras has four major units and all excepting one are producing, near-full-installed capacity. This is not a highly capital-intensive industry, being in the range of Rs. 66 to Rs. 383 lakhs.

5.6 *Background of Industrialists*:

The industrialists have varied background. Bankers, Priests, Vellalas, Gramanis, etc., have joined in organising these industries with a ready market tuned to varied economic activity. The chemical and plastic industries have not taken yet a root.

The Mettur Chemicals and a few smaller firms engaged in dye-stuff production are not comparable with the mammoth petro-chemical complexes of the North Eastern and Western regions. The projected petro-chemical complex in Ennore and Manali around the City of Madras under the auspices of I.C.I., and the expansion programme of the Madras Refineries hold high promise for the Madras Chemicals with many ramifications like P.V.C. P.V.A., dye-stuffs and valuable lubricants. But this prospect depends on emerging entrepreneurship to emerge rather than on what exists, and is a function of individual, and State initiatives.

5.7 *Managerial links*: Interlocking managements is a term often used when a few individuals try to dominate the entire framework of industry. I have attempted here a person based table to rank the industries in terms of interfirm connections. These firms do not exhaust the entire frame of industry. A few industrialists have involvement in about 6 industries though they do not have the dominant voice in every one of the industries they are connected with.

An Alphabetical List of Seventy Five Entrepreneurs in Tamil Nadu and their Functional Spheres

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
1.	Abdulah Bhai	35.63	Engineering
2.	S. B. Adityan	15.03	Engineering
	"	30.00	Chemicals
3.	L. Alagasundaram Chettiar	19.48	Textiles
	"	82.91	Banking
	"	184.96	Financier
4.	S. Anantharaman	20.00	Engineering
	"	75.00	Engineering
5.	A. M. M. Arunachalam	375.00	Tubes
	"	32.22	Tubes

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
6.	M. Baghat	32.22	Tubes
	,,	35.63	Engineering
7.	D. Balasundaram	5.54	Textiles
	,,	104.57	Textool
8.	D. J. Balraj	16.60	Chemical
	,,	4.68	Electric
9.	Bagwandas Goenka	15.00	Power
10.	Chandappa	10.00	Synthetic Gem
	,,	34.98	Automobiles
11.	M. A. Chidambaram	34.98	Automobile
	,,	10.05	Automobile
	,,	11.30	Tube
	,,	32.22	Tube
12.	A. G. Damodaraswamy Naidu	104.27	Textiles
	,,	7.68	Textiles
13.	G. K. Devarajulu Naidu	10.00	Textiles
	,,	14.84	Textiles
	,,	10.00	Textiles
	,,	75.00	Banking
	,,	4.94	Textiles
	,,	597.73	Mining
14.	R. Doraisamy	290.95	Textiles
	,,	10.00	Textiles
15.	V. Emberumanar Chettiar	29.98	Textiles
	,,	12.49	Insurance
	,,	7.50	Paper
	,,	5.69	Glass
	,,	22.98	Sugar
16.	K. Eswaran	20.80	Engineering
	,,	34.98	Auto
	,,	6.50	Trade
17.	B. D. Goenka	100.00	Sugar
18.	Haja Sheriff	28.07	Engineering
19.	H. V. R. Iengar	60.00	Sugar
20.	P. Jagadeesan	10.00	Textile
	,,	32.22	Tube
	,,	10.00	Textiles
21.	N. Jaganathan	3.00	Textiles
	,,	10.00	Textiles
	,,	4.55	Engineering

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
22.	Jayantilal Mehta	79.99	Sugar
	"	10.00	Finance
23.	R. K. Kandaswamy	20 00	Textiles
	"	290 95	Textiles
	"	20.00	Textiles
	"	14.87	Textiles
	"	4.88	Engineering
24.	Karumuthu Theagraja Chettiar	15.97	Insurance
	"	31.91	Banking
25.	D. C. Kothari	34.98	Auto
	"	79.99	Sugar
	"	60.00	Sugar
	"	290.65	Textiles
	"	82.99	Banking
	"	10 00	Finance
	"	184 56	Finance
26.	H. C. Kothari	50.00	Textiles
	"	79.99	Textiles
	"	2.30	Electric
	"	10.00	Finance
	"	100.00	Power
27.	T. S. Krishna	12.00	Textiles
	"	26.45	Textiles
	"	164.06	Automobiles
	"	37.00	Steel
28.	K. S. Krishnamurthy	2.50	Plantation
	"	3.75	Plantation
	"	30 00	Chemical
29.	S. P. Krishnaswamy Gdr.	10 90	Textiles
	"	8.21	Textiles
30.	U. W. Law	178.47	Textiles
	"	100.00	Binny
31.	C. S. Loganathan	20.00	Transport
	"	29.98	Textiles
	"	2.30	Engineering
	"	24.77	Chemicals
	"	24.77	Chemicals
32.	Dr. P. S. Loganathan	249.89	Chemicals
33.	N. Mahalingam	0.11	Engineering
	"	109.27	Textiles

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
33.	N. Mahalingam	8.69	Textiles
	,,	5.54	Textiles
	,,	184 56	Financier
	,,	10.00	Synthetic Gem
34.	P. R. Ramakrishna	290.95	Textiles
35.	V. P. Menon	100.00	Trade
	,,	30.03	Cement
36.	M. Meyappa Chettiar	75.00	Banking
	,,		Textiles
37.	A. V. Meyyappa Chettiar		Film
38.	V. S. Money	20.80	Engineering
	,,	15.60	Textiles
39.	AL. Mudaliar	178 47	Textiles
	,,	49.86	Chemicals
40.	A. M. M. Murugappa Chettiar	79.99	Sugar
	,,	0.11	Engineering
	,,	50.00	Sugar
	,,	19.25	Sugar
	,,	375.00	Tubes
	,,	184.56	Financier
41.	M. Ct. Muthiah	100.00	Sugar
	,,	75.00	Banking
	,,	12.49	Insurance
	,,	184.56	Finance
	,,	49.86	Chemicals
42.	M. P. Nachimuthu Mudaliar	49.81	Textiles
	,,	2.04	Medicine
43.	A. Nagappa Chettiar		Leather
44.	B. Nagi Reddi		Printing
45.	C. S. Narasimhan	3.75	Publishing
	,,	29.98	Textiles
	,,		Power
	,,	7.50	Paper
46.	T. S. Narayanaswamy	597.69	Mining
	,,		Transport
	,,	2.30	Power
	,,	184.56	Finance
	,,	30.00	Chemicals
	,,	4.20	Chemicals
	,,	14.49	Bricks

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
47.	S. Naryanaswamy	4.68	Ceramics
	„	24.77	Chemicals
	„	7.70	Paper
48.	V. S. Nataraja Mudaliar	139.77	Automobiles
	„	75.00	Banking
49.	V. T. Padmanabhan	34.98	Automobiles
	„	12.49	Insurance
	„	75.00	Banking
50.	K. Palani	597.69	Mining
	„		Transport
	„	2.30	Insulators
	„	30.00	Chemicals
	„	24.77	Chemicals
51.	M. S. Palaniappa Mudaliar	10.00	Textiles
	„	10.00	Textiles
	„	12.47	Mining
52.	M. Ct. Pethachi	60.00	Sugar
	„	75.00	Banking
	„	49.86	Chemicals
53.	S. R. P. Ponnuswamy Chettair	10.00	Textiles
	„	10.00	Textiles
54.	Raja Sir Muthiah Chettair	30.03	Cement
	„	82.99	Banking
	„	65.00	Managing Agencies
55.	P. T. Rajan	20.00	Sugar
	„	4.20	Scientific supply
56.	P. R. Ramakrishna	290.95	Textiles
57.	A. R. Ramanathan	16.66	Tubes
	„	49.86	Chemicals
58.	M. S. Ramaswamy	1.50	Investment
	„	6.91	Automobiles
	„	6.00	Plantation
59.	Sir A. Ramaswamy Mudaliar	375.00	Tubes
	„	497.00	Automobiles
	„	70.00	Chemicals
60.	T. S. Santhanam	49.75	Financier
	„	49.75	Automobiles

No.	Name of the Entrepreneur	Total paid up capital of the connected companies (Rs. Lakhs)	Industry
61.	M. Sathyanarayana	4.75	Glass
	,,	15.00	Power
	,,	12.47	Mining
62.	A. Sivasailam	30.76	Chemicals
	,,	75.00	Engineering
	,,	3.75	Engineering
63.	J. V. Somayajulu	22.95	Sugar
	,,	3.30	Enamelware
	,,	29.98	Textiles
	,,	30.00	Chemicals
64.	T. S. Srinivasan	78.61	Automobiles
	,,	164.06	Automobiles
65.	E. H. Stanes	6.90	Automobiles
	,,	6.00	Plantation
66.	P. Suryanarayana	3.75	Publisher
	,,	29.98	Textiles
	,,	24.71	Chemicals
67.	R. J. Taraporewala	24.77	Chemicals
	,,	4.68	Electricals
68.	J. Thomas	2.50	Plantation
69.	V. S. Thyagaraja Mudaliar	74.98	Sugar
	,,	37.00	Steel
	,,	12.49	Insurance
	,,	49.86	Chemicals
70.	S. S. Thyagarajan	14.99	Scientific
	,,	3.00	Power
	,,	2.50	Plantation
71.	K. S. Vaidyanathan	6.00	Plantation
	,,	15.00	Plantation
72.	M. V. Venkataraman	1.50	Investment
	,,	6.91	Automobiles
	,,	6.00	Plantation
73.	R. Venkataswamy Naidu	596.73	Mining
	,,	15.03	Engineering
	,,	184.56	Financier
	,,	6.61	Sugar
	,,	10.00	Textiles
74.	R. Venkatesan	6.50	Trade
	,,	15.00	Engineering
	,,	10.00	Textiles
75.	G. N. Venkatapathy	3.57	Textiles
	,,	4.58	Engineering

5.8 *Entrepreneurial criteria*: (i) *Profitability*:

The textile firms showed in 1968 as wide a range of profit as 6% and 25%. Among these 24 textile firms, 6 firms had profits between 6 and 9%. The average profit level was 11.7%. The percentage of profit declared is a misleading index. There are restrictions under the Company Law and also intra-firm decisions on the carry-over of profit to the reserve fund. In contrast the engineering industries were often able to declare a net 7½% with the possibility of an increased return in the longrun when there is full utilisation of installed capacity. But the investment in these firms, if they are large are from large finance houses, whose concern for profitability is yet to be known.

5.8.1 *Entrepreneurial criteria*: (*ii*) *Location*:

Leaving out Madras and Coimbatore, the limited industrialisation of the rest of Tamil Nadu economy is clear from the following table.

The Concentration of Industries in Tamil Nadu.

Location		Number of Firms
Madras	..	87
Coimbatore	..	29
Madurai	..	9
Coonoor	..	5
Salem	..	5
Tirupur	..	4
Tiruchirapalli	..	2
Rajapalayam	..	2
Others	..	8

Source: Encyclopaedia, 1968-69.

5.8.2 *Entrepreneurial criteria*: (*iii*) *Decision-making is a Package. A study of the Automobile industry*:

India is among the 27 countries producing their own automobiles, calling for massive investment for

the technological improvement in production. An expanding automobile industry sets the pace of economic progress of many ancillary units. Beginnings were seen in India only 15 years ago. The use of indigenous skill and components up to 85% of the output is a commendable trend.

5.8.2.1 *Private enterprise and automobile industry*:

Under private enterprise production commenced after the country's independence endeavours were made to reach a stage of 100 indigenous content. By 1955 programmes of development were approved and the six Hindustan Motors Calcutta, Premier Automobiles Bombay, Ashok Leyland Madras, Standard Motors Madras, Tatas and Bajai, Maharashtra and Mahindra and Mahindra Bombay were licensed for manufacture of vehicles. To help the industry tariff protection was given and imports prohibited. The absence of competition with the rest of the world gave a sheltered market for automobiles and some firms used it, and others abused it.

5.8.2.2 *The firms in automobile production*:

There are three major automobile and tractor producing firms in Madras. The entrepreneurship of these may be traced to Sir A. Ramaswamy Mudaliar for the Ashok Leylands, for the manufacture of tractors to Mr. S. Anantharamakrishnan and to Mr. K. Gopalakrishna for the manufacture of Standard Motor Cars. These three constitute the pioneers in one of the growth sectors in industrialization. Leylands have established a reputation for their products all over India, have adopted massive expansion programmes and maintain world standards and management and the level of international efficiency. A. M. M. Murugappa Chettiar brought the goodwill of the banking community and the family members

for the management of his firms. After A. M. M. Murugappa Chettiar, Mr. A. M. M. Arunachalam continued at the top level of management. Similarly, Mr. Ananthararamakrishnan left behind a vast industrial empire with two management chiefs Mr. M. K. Raju of India Pistons and his son Mr. S. Sivasailam of the Amalgamations Ltd. These firms have not had financial anxieties, since their establishment excepting for a few years. The Standard Motor Product after nearly 20 years of existence has had recently to face labour and financial difficulties.

5.8.2.3 *Problems in the industry*:

The success story in this area is as important as the instances of difficulties. The Standard Motors faced firstly labour troubles and secondly financial difficulties. Its current management positions are held by Mr. Gopalakrishnan and Mr. K. Srinivasan. They have to reconstruct the man power budget at the top management level as well as the worker level. Besides, strengthening of the bloc capital asset of about Rs. 1.5 crores with another Rs. 1.45 from the Public Institutions like the I.D.B.I., their working capital needs strengthening from I.D.B.I. and other banks. There is also the need for a market survey and a perspective plan for expansion of output to at least 3500 cars a year.

5.8.2.4 *International experience is in favour of Package decision*:

Entrepreneurship of the calibre of Henry Ford in revolutionizing the scale of production is to some extent handicapped under the structure of Indian taxation, commercial banking and institutional financing. However, the Government of India, the State of Tamil Nadu, I.D.B.I. and other institutions do play their part. Every giant organization in India,

whether it is a financial institution or a bank or a department of the Government, considers every step it has to take, as a matter of prestige, partly as public policy and partly in terms of financial prudence. The decision makers are not many but they find it difficult to play the autonomous role of Henry Ford in getting a consistent package of decisions because the State Government is responsible to the legislature, the Union Government, to the Parliament, and the Commercial banks to the new philosophy of banking which they are yet to learn. Our entrepreneurs face an unanswered dilemma. Have we lost the questioning body of share holders, and replaced it with an inaccessible bureaucracy with enormous power which however is unwilling to act unless forced to? Or are we taming the giant Companies to serve national economic purposes?

5.9 *The size of Firms:*

The problem of monopoly is relevant to a Society wherein problem of production has given place to the problems of concentration of ownership. However, since India plans to jump some of the stages of industrial history, it is seeking to take up monopoly control before the monopolies grow to giant size. The position of Tamil Nadu is still some distance away from the heart of the conflict in this matter of size and control.

5.9.1 *Size of the Tamil Nadu Enterprises:*

Among the one hundred large firms in India, the ranks in the range 32 to 96 are available to Tamil Nadu, as under.

All-India Rank wise list of the Firms in Tamil Nadu out of the hundred Indian Firms.

(Amount crores of Rupees)

Rank	Name	Year	Paid up Capital	Rank	Amount Total	Assets Rank	Profit before tax Amount	Rank
		1967-68	N.A.	—	N.A.	—	N.A.	
32	Indian Aluminium Co., Ltd.	1966-67	6.41	31	32.31	25	5.23	10
		1965-66	6.41	27	29.41	22	3.29	12
33	Madura Mills Co , Ltd.	1967-68	3.50	—	19.36	—	0.86	—
		1966-67	3.50	66	15.68	63	0.91	63
		1965-66	1.75	97	15.68	54	0.15	—
34	Ashok Leyland Limited	1967-68	7.79	—	22.14	—	0.91	—
		1966-67	6.73	29	18.53	50	1.37	50
		1965-66	5.52	34	15.38	57	20.07	30
49	Buckingham & Carnatic Co. Limited	1967-68	N.A	—	N.A.	—	N.A.	—
		1966-67	3.78	57	11.31	78	0.44	80
		1965-66	1.78	96	9.46	79	0.64	69
63	India Cements Limited	1967-68	N.A.	—	N.A.	—	N.A.	—
		1966-67	3.83	56	15.32	67	2.23	29
		1965-66	3.83	45	14.36	60	1.25	46
68	Dalmia Cement (Bharat) Limited	1967-68	3.27	—	9.12	—	1.55	—
		1966-67	2.53	89	9.20	90	2.23	30
		1965-66	2.52	76	9.30	84	1.63	56
89	Tube Investments India Limited	1967-68	N.A.	—	N.A.	—	N.A.	—
		1966-67	2.50	92	11.39	77	0.87	64
		1965-66	2.50	80	11.39	72	1.14	54
96	South India Viscose Limited	1967-68	4.90	—	8.06	—	0.84	—
		1966-67	4.90	41	8.12	94	0.73	69
		1965-66	4.90	36	7.87	92	0.69	67

Source: Various Annual Reports of the Firms, and Investment returns.

6.0 Trade

6.1 *Traditional and new classes*:

Entrepreneurship in Trade can be attributed to important communities committed to commerce for several centuries. The Thambu Chetti Street, and Linghi Chetti Street in George Town recall to us the memories of the East India Company which flourished for 200 years. The Chettiars opened up the Markets in Burma, Malaya and Ceylon, partly for goods and largely for services of money lending. The Naidus of Coimbatore built a textile centre for the country in their district starting with the trade in yarn in early decades and taking advantage of their salubrious climate, and the community's financial resources. These entrepreneurs now stand foremost in the production of textile machinery and new precision made engineering goods. The combination of industry and educational work by many entrepreneurs has opened up a new class of educationalist-industrialists.

7.0 Banking

7.1 *Evolution in the earlier decades*:

It is no accident that among the outstanding industrialists in the late 30s and 40s were those connected with banking. The three banks, The Indian Bank Ltd.[14] (estd. 1907), The Indian Overseas Bank[15] (estd. 1937), and The Bank of Madurai Ltd.[16] (estd. 1943) were directed by Mr. Muthiah

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[14] *The Indian Bank*: K. Balasubramania Iyer, T. Chengalvarayan, Muthiah Chettiar, P. V. Rajamannar, L. Alagasundaram Chettiar, Kachapikesa Mudaliar, L. M. Meyyappan, P. V. R. M. Karumuthu Chettiar, Ram Das, Purushothama Das.

[18] *Indian Overseas Bank*: M.Ct. Muthiah, M. Meyyappa Chettiar, V. S. Nataraja Mudaliar, A. R. Ramanathan, M.Ct. Pethachi, V. T. Padmanabhan, G. Devarajulu, S. S. Vasan, C. M. Khatau, V. K. Ramaswamy Mudaliar.

[19] *Bank of Madura Ltd*: K. Karumuthu Theagaraya Chettiar, P. K. N. Vairavan Chettiar, Annamalai Chettiar, A. R. Arunachalam Chettiar, Thirumalaswamy Iyer, I. A. Chitambaram Pillai.

Chettiar, Mr. M. Ct. Muthiah and Mr. Karumuthu Thyagaraja Chettiar. These three banks between them had a paid up capital of Rs. 190 lakhs and the interlocking management in many industrial and business enterprises in South India had had either the same directors as those of these banks or those closely connected with them. Besides organised banking, those in unorganised and indigenous banking activity have also had some control over the capital investment and possibilities of entering industry. It is too early to judge the kind of transformation that the nationalisation of banking will involve. Currently technocracy is in command of the Reserve Bank, the financial institutions like the IDBI,[17] IFC, ICICI, etc. The nominees of the Government of India, the economists, and heads of chambers of commerce are on the Boards of these powerful bodies with control over instruments of banking which can redirect the economy. The contribution to the share capital of a company has played a major part in industrial financing until recently, but currently the number of financing institutions which make available funds with relative ease are many. Perhaps this has both the advantage of supplying capital where there is technical ability and also the disadvantage of combining financial irresponsibility with engineering ability. There is however the awareness that the easy money should not result in inadequate use of capital, and this may be insufficient guarantee to prevent such lapses.

8 State as Entrepreneur

8.1 *State as an entrepreneur in Education Health and Electricity*:

With the establishment of the Planning Commission, the emergence of Government as a leader in

[17] In this paper the reference to IDBI and REI reflect my personal views and not of these institutions with the management of which I have some connections.

investment policy was clear. Further in education, the State is the manager. The standard of primary education has reached near 100% in 1970 in Tamil Nadu. Only two other states Kerala and Nagaland have a similar performance. Bihar, Haryana, Kashmir, Rajasthan, and Punjab are in the range of 50 to 75%, for the age group in class 1—7. Nearly 30% of the age group are in Kerala and Tamil Nadu, compared to the All India National Average of 19%. Similarly, Madras has a maximum number of primary health centres, and the number of units for comparable population is next only to West Bengal. The largest number of Medical Colleges, population-wise are in Tamil Nadu, Mysore taking the second place. These developments have been possible largely because of the healthy traditions of education and health service enterprises of the Government, and voluntary institutions and individuals.

8.2 *Agriculture and Industry*:

The enterprise of the State in Agriculture has been in terms of consolidation of holdings, introduction of land reforms and scientific encouragement of production with an All-India compound growth rate of 1.77 per annum between 1952 and 1965.

The record of Tamil Nadu has been around 3.04 with Gujarat at 4.09. The high rate of productivity arose from massive spurt in innovation and spread of High Yielding Varieties programme by progressive farmers of Tamil Nadu with the equally progressive Governmental agencies. The electrification of villages in Tamil Nadu has set a record for the rest of India. The percentage of electrified villages is 11 for the whole country and is near 100% in Tamil Nadu. Similarly, many Small Scale and Large Scale Industries, Transport, and other industries have been developed by the Government of Tamil Nadu.

CONCLUSION

Entrepreneurial studies could be spread over long periods as those of R. G. Sayers "Bank of England", or Prof. J. S. Wilson's *"The Unilever"* or Hilton Brown's: "Parrys", and similar ventures of Southern India. In this paper an attempt has been made to refer to a few issues and persons as some models of and subjects for studies to be undertaken.

The firms with long entrepreneurial record in the Madras Presidency are many.[18]

Though no claim even for sampling can be made, I agree with Professor J. P. Lewis, that many in the world are "fond of noting, for example, that if progress in the Punjab, or Madras could only be reckoned separately it would match or outclass the performance of most of those showcase countries (most of them smaller) whose dynamism was heralded so widely by development analyst".[19] Tamil Nadu's future is bright because its people constitute one of the rarest manifestation of human resources.

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In the discussion of the paper, under the chairmanship of Dr. Y. Nayudamma, Director, Central Leather Research Institute, certain issues were high lighted. The distinction between the entrepreneur and entrepreneurship is of importance in future development. The preponderance of the owner entrepreneur in large and small industries in the private sector also calls for future action. Duplication and overlapping in some undertakings pioneered by indi-

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18 SHANMUGASUNDARAM, V.: The *Business enterprises in South India* (Historical Records Commission, Government of India, 1965).

19 LEWIS, J. P.: "Wanted in India: A relevent Redicalism", *Economic and Political Weekly,* Special Number, July 1970, (Bombay 1970), Pp. 1212.

genous entrepreneurs by others with the help of foreign collaboration are a wasteful feature. More information on the limited and meagre nature of entrepreneurship in the public and agricultural sectors in Tamil Nadu is needed. The distressing gap between the education system and the entrepreneurs is illustrated by the lack of educational scientific background in regard to most of them and the absence of education in entrepreneurial qualities of the existing system. The current debilitating procedures in the provision of capital and credit resources to new entrepreneurs even under the nationalised Banking system are a bottleneck. Three suggestions for the future were made. First, the educational system should be reformed so that the qualities of decision making, inventiveness, innovationmindedness and self reliance are developed. Second, case studies of Tamil Nadu entrepreneurship should be undertaken. Third, the institutional setting particularly in the easy flow of capital and credit reasources and speedy licensing procedures for young aspirants should be rapidly promoted.

INFLATION IN INDIA AND THE WAY OUT*

The Malaise

Our economy today is afflicted with three serious sicknesses — Inflation, Poverty and Unemployment. What is serious about these sicknesses is that they are worsening daily and could lead to the kind of national self inundation that Marx, Engels and Lenin forecast as the fate of European capitalist societies.

Inflation

Inflation is growing. In December 1969 the General Price Index stood at 169.8 and in December 1970 at 180.9, an increase of 6.5 per cent in just twelve months. But that is not the whole story. The rise was a steady one, reaching a peak in September 1970 (183.2). The rise had varying industrial and social impact. On the whole, food prices did not rise much (3.7). Within general foods, the prices of basic foods like wheat, rice and pulses either fell or rose marginally (-4 to +1 per cent). It was other foods like meat, fish, vegetables, and fruits which had sharp price mark ups (5 to 6 per cent) together with sugar (7 per cent) and most sharply edible oils (18 per cent). A similar sharp price rise was registered for industrial raw materials, (16.3 per cent) followed by those of electric machinery (10.4 per cent) and manufactures (8.6 per cent). Incidentally the major cause for

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* Extracts from the address by Dr. Malcolm S. Adiseshiah to the 51st Annual Meeting of the Employers' Federation of South India at Dare House, Madras on 30th March 1971.

the price rises in machinery and equipment was the inexplicable steel bottleneck. This continuous rise in prices has already threatened the execution of the Fourth Plan, shaken its assumptions and could nullify a good part of the past achievements and future hopes of the people and the country. It is true that we have been living in an inflationary phase of the world economy. I lived for over two decades, the fifties and the sixties, in a country which experienced one of the highest inflationary phases in Europe but which was compensated by a period of unparallelled growth and prosperity. We have little if anything to learn from that experience. For us in India the stakes in terms of the urgent need for augmented production and improved living standards are much higher. The deleterious effects of our inflation on savings, malinvestment, declining exports notably the traditional ones, distorted income distribution and speculative hazards are well known.

Poverty

Poverty, our second sickness, is both a relative and independent variable of our economy. The Sixteenth Round of the National Sample Survey shows us that in 1960, 40 per cent of our rural people could spend less than 50 paise a day and 50 per cent of our urban population lived under 75 paise a day. (There is some controversy as to the urban figure which depending on the method of computation used, ranges from 15 per cent to 50 per cent). Eighty per cent of both groups spent their respective 50 and 75 paise on food. At the minimum calorie consumption level for this country of 2250 calories, this per capita expenditure means that one third of our village and one half of our urban population who could not spend the 50 or 75 paise were living below the destitution line. According to the 18th round of the National Sample Survey this tragic line dipped further. That is towards the end of the Sixties, the increase in rural

consumer's expenditure (around 4 per cent) was distributed with striking inequality. The consumption of the poorest 5 per cent declined by 1 per cent, their poor twenty per cent increased by a mere 2 per cent, while the upper 40 per cent doubled their consumption. In the case of the urban poor the increase in consumption was distributed even more inequitably. Ten per cent of them consumed less at the end of the sixties than at the beginning, while the top forty per cent increased their consumption more than four fold. There is another tragic side to this rich/poor yawning dichotomy. It is that we have a direct tax paying population of less than 2 per cent in the total population of 540 million, who can thus barely provide for the minimum essentials of the country. We can only have a limping economy as long as the majority of our citizens are not able to contribute to its development. A part of this increasing poverty and distributional injustice is in its turn related to inflation, which is simultaneously a cause and consequence. This dichotomy in our country is matched by a similar rich/poor international gap which is worsening daily. During the sixties, the rich countries increased their per capita income by 4 per cent, that is by over Rs. 2,000/- while the poor countries increased theirs by 2 per cent, that is by a mere Rs. 15/-. Both internationally and nationally, inequalities are fast becoming inequities.

Unemployment

Our third major ailment, unemployment and the more nationally relevant under-employment situation, has been the subject of your Golden Jubilee deliberations and so I shall not say much on this subject. I find that we are in danger of adopting an attitude of quiescence, passivity and despair on this issue. We have swerved from unidimensional computations of our employment and unemployment back logs and forecasts to making no estimates at all. We ended our

Third Plan on estimates which when brought up to date would mean that 12 million of our labour force are unemployed and 25 million under-employed. I agree that these computations are highly suspect reflecting the kind of misplaced aggregations, illegitimate isolation and borrowed "foreign" techniques about which we have been rightly warned. But there are methods of disaggregating these quantities and deriving them from our work habits and social norms which we have long used in estimating educated unemployment. The problem is pressing and will not go away because we are still searching for techniques and trying out pilot projects. We can and must identify urgently and precisely by age, sex, occupation, level of skill or non skill, by region, state, district and panchayat, the nature and volume of our unemployed and under-employed men and women. The inter acting nature of our inflationary pressures and of our unemployed and underemployed resources would then stand out. Here again our employment problems are a burdensome part of the employment perspectives of the third world. The under developed countries started 1970 with some 76 million unemployed workers. During the seventies they must provide employment for some 226 million new participants in the labour force. During the same decade the additions to the labour force of the developed countries will be around 56 million.

Analysis of our malaise

Our production. When analysing the causes for our basic economic malaise, inflation, the pride of place goes to our low per capita production. We have learned to discuss growth in terms of total GNP and aggregate GDP. Such totals and aggregates are useful tools for international policy and the national plan frame. In the International Development strategy, we have joined the community of Nations in setting 6 per cent as our GNP growth

target for the seventies. In our Fourth Plan we have used the GDP tool for allocating resources for the various sectors. But the well being of the individual citizen depends on per capita output. If per capita output is high, then a rational system of income distribution can arrest inflation, reduce poverty and increase employment. It would be possible then to use fiscal means to ensure that per capita income is equal to per capita output. In India however the per capita output is low, starting with textiles, oils, coal, fertilisers, steel and intermediate and capital goods generally. And what is worse, these scarcities and short-falls co-exist with surplus capacity in the relevant plants and factories, most visibly in machine tools and capital goods industries. This I have already alluded to when examining the relative price level of the different components of the nation's total output. Our investment record is disheartening. We seem to be caught in a declining investment deadlock in which the government charges the private sector of a conspiracy and the private sector blames the government of unviable controls. The result is that our production which went up 55 per cent in the first half of the sixties increased only by 12 per cent in the second half.

In connection with the low per capita output that we have experienced, our growingly unsatisfactory industrial relation have played some part. For the 8 year period ending 1965 industrial disputes involved 3 to 7 million mandays lost. In 1966 it doubled to 14 million and has kept on increasing to an estimated 27 million mandays in 1970. Our chief labour commissioner computes it at 19 million. Our engineering industries are in the lead, their losses having increased five fold during the decade. Each manday lost as a result of an industrial dispute reduces production in two ways. The direct loss

for 1970 can be estimated at Rs. 100 crores which is 1 per cent of that year's total industrial production. The other loss is the effects of the supply shortages of the closed down firm on other inter connected industries. Putting both together, the loss in 1970 would be of the order of Rs. 135 crores or 1.3 per cent of industrial production in that year. Another way of stating the significance of the factor is that industrial growth last year could have been nearer 8 per cent rather than 6 per cent, if the loss of mandays had been normal (7 million).

Population: The second factor is our run away population, which grows both in absolute terms and percentages. From 251 million in 1920 we have now moved to 554 million, that is from 1/7 to 1/6 of the world's total population. Our average annual growth has increased during that period similarly (from 1.06 per cent to 2.35 per cent), while the world demographic growth has been much lower (from 1.0 per cent to 1.82 per cent). This kind of population growth sets up two kinds of inflationary pressures. The first which I have already referred to is reduced per capita production and the emergence of shortages. It diverts resources from savings and investment on which our growing production effort depends. The diversion is to current consumption. We ought to be saving 15 to 20 per cent of our GNP. Our actual savings ratio is less than half of that. Private corporate savings grew from Rs. 106 crores to Rs. 142 crores in the first three years of the decade. Last year they declined to less than Rs. 100 crores. In other words we are saving and investing enough in order to stay where we are in terms of per capita production. The other pressure is from the demand side. Our growing numbers which are faster than the rate of growth of our production is setting up a demand pressure on the limited amount of our goods and services, thus constituting an

important link in the inflation chain. The inter action of our production and demographic trends is a serious inflationary pressure point.

Within this population/production pressure, food supply and a food surplus to support our growing urbanisation and industrialisation occupy a strategic position. The Western economic models that we use are based on an advanced agricultural technology and a completely different economic structure. Six per cent of the United States Labour force is today engaged in agriculture and this will fall to 2.4 per cent by the year 2000. In all western countries a constantly diminishing percentage of per capita income is expanded on food (ranging from 5 to 10 per cent). The average citizen in the West today suffers from over eating rather than from undernourishment. In one country which has the population of Tamil Nadu, the people spent Rs. 40 crores on slimming in 1970, because they went to bed every night after over eating. The widely advertised calorie controlled diet, calorie cola, slim fit clothes and reducing exercises have also had their effect on economic and growth models which take the food situation for granted. But it was no more than 100 years ago that Adam Smith and Mills, Ricardo, Malthus and the Physiocrates were emphasing the overriding importance of food production and a food surplus as a basic precondition for fighting inflation. For us in India these warnings fully apply. In the break through in wheat and the prospects for rice and other cereals, we have a supply position which can constitute one element in keeping down inflation.

Money supply: Then there is the problem of money supply and its relation to inflation. There is no doubt that one current cause for our inflationary situation is the position of our money supply. During most of 1970 it was steadily expanding. From October 1967 to October 1968 it increased by Rs. 415

crores. A year later from October 1968 to October 1969, it increased by Rs. 535 crores. For last year from October 1969 to October 1970, it jumped by Rs. 843 crores. This abnormal increase in money supply is traceable to the expansion of bank credit to both the public and private sectors. To the Government sector, a credit of Rs. 115 crores was extended for the period April to October, 1970 compared to the Rs. 14 crores for the corresponding 6 months in 1969. The reason for this expanded government credit during a slack period and a successful central and state authorities borrowing programme is difficult to understand. Further the private sector made its contribution. While for the six month period in 1969, the credit to the sector fell by Rs. 112 crores, for a similar period in 1970 it fell only by Rs. 9 crores. Thus during 1970 money supplies to the private sector doubled during the busy season and fell by less than 10 per cent during the slack season, compared to similar periods in 1969. Since October 1970 there has been some let up in this continuous pouring of money supplies and this together with the hike in the bank rate might halt the money spiral. But I would not place too much reliance on those automatic controls as a regulator of our money position. Ours is a closed economy with its priority sectors and sub-sectors, agriculture, export industries, small industries etc., to which credit cut backs cannot apply. In any case the real price of capital for the private and non-priority sectors is mounting. As these constitute the larger part of our economy, their trends must be studied to assess the real relationship between money supply and inflation.

Deficit Financing: One of the contributors to our inflation is Government deficit financing. The Prime Minister forecast for 1970-71 a deficit of Rs. 225 crores and the actual deficit announced by the finance minister last week was near it.—Rs. 230

crores. But this was only because of the short fall in plan outlay of Rs. 160 crores, while receipts under income and Corporation taxes improved, those under excise, market loan and external assistance declined. Meanwhile non-plan expenditures are galloping ahead. The Rs. 170 crores of additional taxation has been spent not on plan investment for which it was raised but for increased pay and allowances and the mounting losses of public sector undertakings. The States have made deficit financing a normal budget resource. Out of a proposed outlay of Rs. 950 crores they contributed less than Rs. 60 crores. They are required to raise Rs. 340 crores but not one of them has shown any serious effort. For 1971-72, the government has presented a budget with a central deficit of Rs. 240 crores. When Government expenditures thus run ahead of revenue, the gap can be filled from three sources: foreign aid which is now declining, loan finance which has reached its limit or deficit financing which seems to have become a way of life. It now looks as if what in economic literature is called "involuntary deficit financing" has become a permanent feature of our economic system. It has all the dangers of a drug. The more you use it, the more it asks to be used.

Wages and Salaries: A final key factor in our inflationary situation is the cost push factor. We are, I believe, all aware of the fact that economic development and growth is a function of increasing labour productivity on the one hand and the unequal distribution of such productivity among different goods and services on the other. In a sense the market seems to punish the efficient and the productives. The continuously declining secular trend in international prices in wheat, sugar, coffee, textiles, equipment and machinery and the whole range of consumer goods from washing machines to television sets go hand in hand with the spectacular jumps in their

labour productivity. But the punishment of the market is only seeming. My wife kept renewing her dish washers and radiograms as I did my cars every two years because of this secular trend. Total sales more than compensate the reduced prices. Those goods and services on the other hand which have not increased their productivity continue to command high prices. If we did not have other forces at work, economic development would make ceiling fans and airconditioners cheap and a hair cut or a shoe shine dear. In this context the common sense view that wage increases must keep pace with increases in productivity is lost sight of. In fact a strong case can be made for maintaining some time lag between productivity increases and income rises. This has not only been the story of 19th century England and France, it is the feature that distinguishes the miracle economies of Austria, Japan, Germany and the Scandinavian countries of today. Incidentally the labour unrest that we have been witnessing in Sweden is unusual for that country and in France extra-ordinary in its nature. First in both countries it is not workers at the lower range of the economic system, the blue collar workers as they are called, that have gone on strike but the highly paid professionals who are near the top of the system. Secondly, they are the people who never think of striking in any country, judges, social workers, senior civil servants, doctors, police and the officers of the Army, Navy and Air Force. In the case of France they are the top pilots, navigators and flight engineers.

Turning to our country, we have a two sector economy, a highly organised sector using capital and modern technology and paying high wages and salaries: and the other sector which combines the intermediate and the traditional with quite a different technology and wage system. We should also note that those in the modern sector will be paid higher

wages than those in the other sector for two reasons. First being engaged in capital intensive activities using skilled labour, its productivity is continually rising. Second their wages must also offset the higher price structure in the urban centres where their plants are usually congregated. I would put such an equilibrium wage at between 50 and 100 per cent of the wage of the non-organised sector. And further increase in the productivity of the organised sector must not lead to an immediate increase in wages but to an increase in savings and investment via profits and taxes or to the betterment of the rural sector via improved terms of trade, if the cost push factor is not to contribute further to the inflationary spiral. Today we are witnessing a further round of steep salary increases in the organised sector, starting with the government and public sector services. This round of wages increase will cost our State Rs. 27 crores in a full year, and for the country as a whole Rs. 250 to 300 crores, pushing up non-plan expenditure by over Rs. 800 crores over the quinquennium. These salary increases have no relation to productivity increases. They are a response to price rises and will themselves contribute to further price rises. This vicious inflationary circle leads nowhere except to further inflation. It is a case of the dog chasing his own tail.

To return to my argument of the need to correlate productivity and wage increases, we have concrete case histories that we might follow. If we measure productivity in the usual per unit output of manhour and allow for income elasticity calculated on the basis of demand and per capita income, we will find that in the fifties and sixties, products with a marked increase in productivity and high income elasticity showed the lowest price increase, as in the case of bicycles, pharmaceuticals and sewing machines. On the other hand products such as textiles, oils, railways and coal

illustrate how low productivity and high income elasticity result in steep price rises. If I can generalise, I would say that a rapid increase productivity makes for price stability and per centra low productivity and rapid wage increases lead to spiralling prices.

All the factors that I have tried to analyse here bring us back to the point I started from, namely, inflation. Our general price level, during the last two decades, has not unsurprisingly increased at the compound rate of 5 per cent per annum.

The Way Out.

What then is the answer to our inflationary malaise?

Increase Production. The first answer is an increase in our total production. I believe that we are well situated to achieve an important increase in our Gross National Product. If the break through in wheat production is now extended to rice, if a dry farming technology packet is quickly developed and put into effect, I do not see why Agricultural growth cannot move up from the current five to seven or eight per cent during the seventies. Secondly though our industrial recovery continues to be sluggish and for 1970 likely to register no more than 6 per cent, it should soon recover to a normal 8 to 9 per cent, if we use our unused capacities, if public sector undertakings turn the corner and cease showing red, and the private sector is given its head. The three new steel plants, the small car and scooter projects and others should feed ancillary plants and have a multiplier effect on private investment. To this should be added the need to decentralize and deconcentrate our production units as a means of broadening our industrial base and employing our wide and growing entrepreneurial talent. If in addition the tertiary sector, notably transport, expands at its possible 9 per cent,

our overall growth rate for the seventies should be 8 per cent. In other words I believe that the doubling of our national income from the current Rs. 37 thousand crores to Rs. 80 thousand crores by 1980 is not an impossible target. In any case it is the first essential to fight inflation, remove scarcities and alleviated demand pressures.

Increase Savings. A second essential is a rapid increase in the savings component of our economy. Savings should move forward from the current low 6 to 7 per cent to 15 to 18 per cent by the end of the decade. For this target 1975 would be a convenient check point at which it should return to 12 per cent. This savings ratio is attainable if the growth target is achieved. The marginal rate of savings would ensure our attaining the savings equation.

In this connection the manner in which the tax changes in the current budget have promoted savings and investment among low income groups and the extent to which such increases off set the loss in savings caused by the removal of incentives to the higher income levels must be examined. It may be that I am overly influenced by two experiences in early March when two professionals refused my fees for their services because they said being in the 80—92% tax bracket, they wished no further work or in my case remuneration. Has there been a loss in saving and investment from the higher income groups which has been compensated by increased savings by the Government and small investors? Has the initiative of the employer who provides the link between resources and investment been strengthened or dampened? It is a sound social canon that savings must be spread as widely as possible and not be made dependent on a small group. But the over riding consideration in fighting inflation is surely a rapid increase in savings. Our fiscal instruments must

ensure this, simultaneously with moving us in the direction of social justice.

A Lower capital/Output Ratio. A third parameter to fight inflation is the capital output ratio which has deteriorated to somewhere between 5 and 6 today. Acceleration of the agricultural revolution, concentration on intermediate term projects, intelligent use of intermediate technology can bring this ratio down to what it was in the First Plan period, namely 2.5. This is a must. But there is here a very important lesson with regard to the R and D effort of our private sector which is the lowest in the industrial world. In Germany, U.K. and Japan 60 to 70% of the total R & D is undertaken by the private sector. In our country with a comparative manufacturing base, the private sectors' share is less than 10%. To improve our capital/output ratio I request you to use a simple calculus—what percentage of your sales turn over goes into your R & D.

Launch Rural Works employment Programme. A further desiderata is a massive employment programme based on a wide ranging variety of rural works including construction and road transport with their low wage employment orientation which should be aimed at providing employment not only for the current back log of unemployed and under employed but also for the 55 million labour force entrants which will mark the seventies. For this enormous and extremely urgent programme, something like one per cent of our GNP should be used plus a part of the food surplus which will soon be emerging. Incidentally the stock fears that a rural works programme would be inflationary could be set aside as the programme would be matched against the kind of expanding production and farm output that I have outlined earlier. All this means that we should start with an annual plan outlay of Rs. one thousand crores (which includes the food surplus) for the rural works

programme and the growth centres project moving to Rs. two thousand crores by the end of the decade. This outlay may seem staggering but so is the malady of unemployment and under employment that it is to counter.

Make Family Planning and Education Effective. Our family planning programme must produce results in holding back our numbers, not for the seventies whose peoples were already born in the sixties but for the eighties. The critical point is a reduction in the birth rate in that same sector of the population which I have described as living below the destitution line. Increased per capita income would itself be a major tool but so would legislation, education and soundly conceived birth control programmes. Our population must become a non inflationary force.

So too is the obligation to restructure and reform of our educational system. The first demand here is rapidly to reduce and eventually liquidate illiteracy in the countryside. The present primary school with its heavy wastage is a malinvestment. So too is our general secondary and liberal arts higher education which are an inflationary factor in the labour market. A reform of our general, technical and agricultural educational system along lines of the five years old and universally acclaimed report of the Kothari Commission can no longer be put off. The Government and non governmental agencies must now take this task in hand.

Towards a price/income policy. It is against this kind of multi dimensional economic programmes which would develop their own correctives against unoptimum monetary supplies and involuntary deficit financing, that a begining should be made for developing a price/income policy. The policy for the general price level should aim at a controlled price increase of 2 to 3 per cent per annum, in order to

provide for expanding public and private investments, future planning increases and multiplier relations between capital and consumer goods. Within this overall price policy, relative prices for the major groups of goods and services including guide lines particularly for the agricultural and private sector must be developed. In the industrial sector, the guiding principle is that the industrialist has an obligation to provide his consumers with reasonably priced goods and for this must keep his costs down. Similarly we need to formulate and execute a wages income policy primarily for the organised sector, using our well developed administrative machinery that we have in the country. This machinery includes the various tribunals, courts, boards and committees. Given our employment imperatives and our geographical and regional structures and difference, such a wage policy must be based on the principle of being in harmony with the average level of productivity of the different parts of the sector. A complicating factor is that our wage market is divided into innumerable and sometimes self contained segments and sub sectors including the unorganised and the self employed ones. For each such segment and subsector, regular periodic productivity estimates will need to be made in order to maintain the link between wages and income on the one hand and its appropriate level of average productivity on the other.

The only hesitation that I feel with regard to this policy is its call for co-ordination of the duties and obligations, the claims and responsibilities of a host of persons and authorties in the public and private sectors. The ministry of Finance which sets the taxes, the Reserve Bank which regulates money supplies. the Tariff Commission which decides the degrees of protection, all those who are involved in the formulation of agricultural prices and private and public sector prices must be guided by the over riding, if

undefinable demands of national interest which comprise increased production and social justice aided by an appropriate price/income policy. Can this degree of harmony and co-ordination be attained, not through further controls and regulations but through fuller knowledge and deeper commitment?

Such is the way out as I see it. It is a complex way but a clearly marked out one. Given the stakes at issue, the path that each one of us has to walk, in our attitudes and action, our motives and decisions is the path for everyone of us, citizens of this land. For that is what we are. We are employers, we are labourers, we are civil servants and we are ministers of Government. But we have all one feature in common. We are all citizens of the country and it is in execution of that heavy responsibility that we can each of us lead our country to walk its destined path of progress, light and life.

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